

APHIS – Plant Protection and Quarantine  
California Department of Food and Agriculture  
**Weekly Situation Report: Light Brown Apple Moth (LBAM)**  
**September 12, 2008**

*Updates in red*

**Survey and Diagnostics Information:**

| Counties        | Survey          |                      | Diagnostics        |       |
|-----------------|-----------------|----------------------|--------------------|-------|
|                 | Number of Traps | Presumptive Positive | Confirmed Positive |       |
|                 |                 |                      | This Week          | Total |
| Alameda         | 3,959           | 0                    | 20                 | 1,446 |
| Amador          | 33              | 0                    | 0                  | 0     |
| Butte           | 129             | 0                    | 0                  | 0     |
| Calaveras       | 80              | 0                    | 0                  | 0     |
| Colusa          | 26              | 0                    | 0                  | 0     |
| Contra Costa    | 5,239           | 0                    | 24                 | 759   |
| Del Norte       | 0               | 0                    | 0                  | 0     |
| El Dorado       | 79              | 0                    | 0                  | 0     |
| Fresno          | 740             | 0                    | 0                  | 0     |
| Glenn           | 36              | 0                    | 0                  | 0     |
| Humboldt        | 121             | 0                    | 0                  | 0     |
| Imperial        | 0               | 0                    | 0                  | 0     |
| Kern            | 491             | 0                    | 0                  | 0     |
| Kings           | 182             | 0                    | 0                  | 0     |
| Lake            | 103             | 0                    | 0                  | 0     |
| Lassen          | 0               | 0                    | 0                  | 0     |
| Los Angeles     | 5,019           | 0                    | 0                  | 1     |
| Madera          | 166             | 0                    | 0                  | 0     |
| Marin           | 1,672           | 0                    | 20                 | 491   |
| Mariposa        | 53              | 0                    | 0                  | 0     |
| Mendocino       | 61              | 0                    | 0                  | 0     |
| Merced          | 275             | 0                    | 0                  | 0     |
| Monterey        | 3,154           | 0                    | 83                 | 3,920 |
| Napa            | 1,189           | 0                    | 0                  | 3     |
| Nevada          | 16              | 0                    | 0                  | 0     |
| Orange          | 1,702           | 0                    | 0                  | 0     |
| Placer          | 73              | 0                    | 0                  | 0     |
| Plumas/Sierra   | 0               | 0                    | 0                  | 0     |
| Riverside       | 1630            | 0                    | 0                  | 0     |
| Sacramento      | 1,169           | 0                    | 0                  | 0     |
| San Benito      | 407             | 0                    | 0                  | 6     |
| San Bernardino  | 1,193           | 0                    | 0                  | 0     |
| San Diego       | 2,107           | 0                    | 0                  | 0     |
| San Francisco   | 188             | 0                    | 0                  | 9,742 |
| San Joaquin     | 753             | 0                    | 0                  | 0     |
| San Luis Obispo | 308             | 0                    | 0                  | 1     |

| Counties      | Survey          |                      | Diagnostics        |               |
|---------------|-----------------|----------------------|--------------------|---------------|
|               | Number of Traps | Presumptive Positive | Confirmed Positive |               |
|               |                 |                      | This Week          | Total         |
| San Mateo     | 3,060           | 0                    | 20                 | 434           |
| Santa Barbara | 1,978           | 0                    | 0                  | 4             |
| Santa Clara   | 7,083           | 0                    | 1                  | 89            |
| Santa Cruz    | 3,846           | 0                    | 403                | 20,146        |
| Shasta        | 217             | 0                    | 0                  | 0             |
| Siskiyou      | 0               | 0                    | 0                  | 0             |
| Solano        | 1,571           | 0                    | 3                  | 20            |
| Sonoma        | 1,038           | 0                    | 0                  | 3             |
| Stanislaus    | 440             | 0                    | 0                  | 0             |
| Sutter        | 119             | 0                    | 0                  | 0             |
| Tehama        | 42              | 0                    | 0                  | 0             |
| Trinity       | 0               | 0                    | 0                  | 0             |
| Tulare        | 712             | 0                    | 0                  | 0             |
| Tuolumne      | 20              | 0                    | 0                  | 0             |
| Ventura       | 548             | 0                    | 0                  | 0             |
| Yolo          | 149             | 0                    | 0                  | 0             |
| Yuba          | 54              | 0                    | 0                  | 0             |
| <b>Total</b>  | <b>53,209</b>   | <b>0</b>             | <b>574</b>         | <b>37,066</b> |

- **Survey**

- Survey teams continue to implement a rigorous detection and delimiting survey for the light brown apple moth (LBAM), *Epiphyas postvittana*, in **47** counties.
- A total of **53,209** pheromone-baited traps are placed in and around retail and production nurseries, at ports of entry, and in the open environment and are being inspected bi-weekly.
- Visual inspections of all nurseries located within 1.5 miles from any traps with confirmed LBAM are conducted for the presence of any life stages.

- **Identification and Diagnostics**

- A total of **37,066** moths have been confirmed to date as LBAM (2007-08).
- LBAM immature life stages, including larvae and pupae have been found in a total of **91** nurseries, cut flower or greenery farms in Alameda, Contra Costa, Marin, Monterey, San Benito, San Francisco, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, and Sonoma counties. Infested nurseries have the option to treat and be re-inspected as part of the regulatory requirements.

**Operational Update:**

- **Technical Working Group (TWG)**

- The TWG met on December 13 and 14, 2007 in San Diego to review program progress and made recommendations designed to provide short and long-term plans to contain, control, and eradicate LBAM in California. TWG recommendations included the use of pheromone as the primary control strategy in the short-term, while developing long-term control methods such as sterile insect technology.
- The TWG also met the week of May 5, 2008 in San Francisco to review program progress. Sterile Insect Technology (SIT) was placed on a fast track for further development and incorporation into the overall eradication efforts.
- A field trial designed to measure the efficacy of several pheromone formulations in New Zealand has been concluded. Data from the trial is being analyzed and will be used to select the most efficacious and suitable pheromone formulations for program treatments in California.

- **Program Resources**

- A total of **203** personnel are on-site (**179** CDFA, and **24** APHIS) assuming various roles within the emergency program structure.

- **Regulatory Actions**

- CDFA, APHIS, and County personnel continue to conduct inspections and certification of host commodities in the quarantine areas as required by State LBAM regulations and by the Federal Quarantine Order.
- To date, a total of **1,503** compliance agreements have been issued to **2,881** sites located within the quarantine area requiring regular inspections of all nursery stock and other host materials.

- **Treatment**

- Nurseries with host plants that are confirmed as infested with LBAM larvae or pupae have the option of treating or destroying infested plants before shipping outside the quarantine area.
- In fall 2007 -
  - o Three ground applications of *Bacillus thuringiensis* (Bt) were made in Oakley (141 properties) and Napa (71 properties) during 2007.
  - o Hand-applied pheromone applications of Isomate-LBAM (twist-ties) were used in Oakley, Napa, Danville, Dublin, San Jose, Sherman Oaks, and Vallejo/Mare Island.
  - o Two aerial applications of the pheromone Checkmate OLR-F were made during 2007 in Marina, Seaside, Sand City, Del Rey Oaks, Monterey and Pacific Grove areas of Monterey County, with approximately 36,500 acres having been treated each time.
  - o One aerial application was also completed in North Salinas/Boronda and the Prunedale/Royal Oaks during 2007.
- 2008 treatment plans –

- Ground-based applications of pheromone will commence only after all toxicological and environmental analyses have been completed and results confirm no risk to public health and the environment.
  - Twist-ties are being used to eradicate LBAM infestations in outlying areas.
- **Environmental Assessment and Monitoring**
  - The Programmatic Environmental Assessment conducted for the LBAM mating disruption (pheromone) program was posted on the APHIS website on February 14, 2008. Public comments are being addressed with the final document scheduled for release in August – September, 2008.

### **Trade Update:**

- CFIA has agreed to remove the phytosanitary certificate requirement for citrus, to be effective August 18, 2008
- On March 24, 2008, Mexico verified phytosanitary compliance measures required for importation of LBAM host products originating from California and Hawaii, including LBAM regulated areas. Compliance measures include a monitoring system, integrated pest management, products sent in closed containers and sealed at origin.
- On January 25, 2008 the Canadian Food Inspection Agency (CFIA) posted the 3rd revision to D-07-03 - Plant Protection (Phytosanitary) Import Requirements to Prevent the Entry of Epiphyas postvittana (Walker) (light brown apple moth). The directive outlines requirements for the importation of host commodities into Canada.
- China and South Korea have made inquiries about the LBAM program.
- Chile has imposed restrictions because of LBAM. An additional AD is required for all LBAM host material declaring that it did not come from a quarantine area.

### **Communication and Outreach:**

- The Joint Information Center (JIC) continues to provide information and field questions regarding the 2008 LBAM program plans in California.
- APHIS is currently addressing public comments received regarding the Environmental Assessment on the proposed 2008 LBAM program.

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### **Background:**

- On February 6, 2007, a private citizen near Berkeley in Alameda County, California, reported that two suspect moths had been captured in a blacklight trap on his property.
- In response, pheromone-baited traps were placed on March 1, 2007, in Alameda and Contra Costa counties. Trap inspections began March 7, 2007.

- On March 16, 2007, the ARS Systematic Entomology Laboratory (SEL) in Washington, DC, confirmed through morphological testing that the two samples submitted were, in fact, LBAM.
- CDFA established on April 20, 2007 a LBAM quarantine of at least 182 square miles in Alameda, Contra Costa, San Francisco, Marin and Santa Clara counties. The quarantine is expected to expand to include Monterey, Santa Cruz and San Mateo counties.
- APHIS issued a LBAM Federal Quarantine Order on May 2, 2007, requiring inspection and certification of all nursery stock and host commodities from eight counties in California, including Alameda, Contra Costa, Marin, Monterey, San Francisco, San Mateo, Santa Clara, and Santa Cruz counties.
- A Technical Working Group (TWG) consisting of subject matter experts from Australia, New Zealand, and the United States was established to provide APHIS and CDFA technical recommendations. The TWG toured the infested region on May 16 and concluded with a two-day meeting on May 17-18 in San Jose, California. Recommendations designed to provide short and long-term plans to contain, control, and eradicate LBAM in California were forwarded to APHIS and CDFA.
- The light brown apple moth (LBAM), *Epiphyas postvittana*, is a native pest of [Australia](#) and is now widely distributed in New Zealand, the United Kingdom, Ireland, and New Caledonia. Although it was reported in Hawaii in the late 1800s, the LBAM find in California is the first on the US mainland.
- LBAM has a host range in excess of 120 plant genera in over 50 families, including nursery stock, cut flowers, fruits, and vegetables.
- LBAM could cause an estimated \$160 to \$640 million annually in crop damage and control costs if it spreads to agricultural production area in the 11 affected counties and up to \$2.4 billion in California.

